



Area
(YA141238)
Machine Id
2695
Component
Diesel Engine
Fluid
PETRO CANADA DURON SHP 15W40 (10 GAL)

RECOMMENDATION

We advise that you check for faulty combustion, plugged air filters, or aftercoolers. We recommend that you drain the oil and perform a filter service on this component if not already done. We recommend an early resample to monitor this condition. NOTE: High solids (carbon/soot) in the sample have limited the accuracy of Infra-Red data including Total Base Number (TBN) value.

Test	UOM	Method	Limit/Abn	Current	History1	History2
Sample Number		Client Info		GFL0088486	GFL0050327	GFL0046924
Sample Date		Client Info		11 Jan 2024	29 Nov 2022	23 Apr 2022
Machine Age	hrs	Client Info		0	0	39959
Oil Age	hrs	Client Info		0	0	689
Filter Age	hrs	Client Info		0	0	689
Oil Changed		Client Info		N/A	N/A	Changed
Filter Changed		Client Info		N/A	N/A	Changed
Sample Status				SEVERE	SEVERE	SEVERE

WEAR

All component wear rates are normal.

Iron	ppm	ASTM D5185m	>120	124	54	91
Chromium	ppm	ASTM D5185m	>20	4	3	5
Nickel	ppm	ASTM D5185m	>5	0	<1	0
Titanium	ppm	ASTM D5185m	>2	0	0	0
Silver	ppm	ASTM D5185m	>2	0	0	0
Aluminum	ppm	ASTM D5185m	>20	2	4	3
Lead	ppm	ASTM D5185m	>40	12	4	4
Copper	ppm	ASTM D5185m	>330	41	79	76
Tin	ppm	ASTM D5185m	>15	2	2	<1
Vanadium	ppm	ASTM D5185m		0	0	0
White Metal	scalar	*Visual	NONE	NONE	NONE	NONE
Yellow Metal	scalar	*Visual	NONE	NONE	NONE	NONE

CONTAMINATION

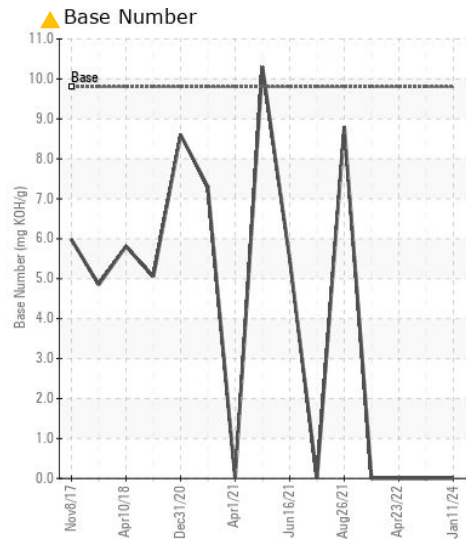
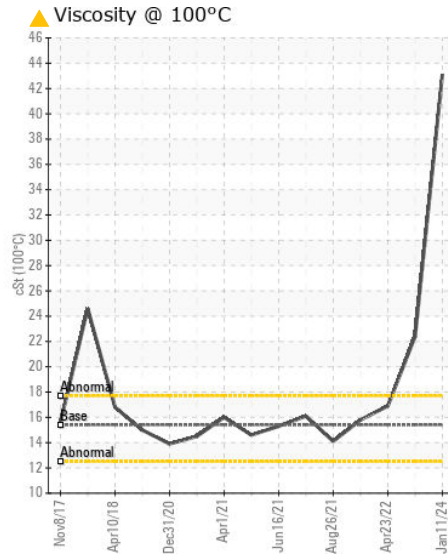
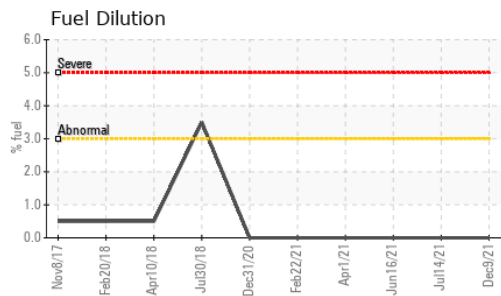
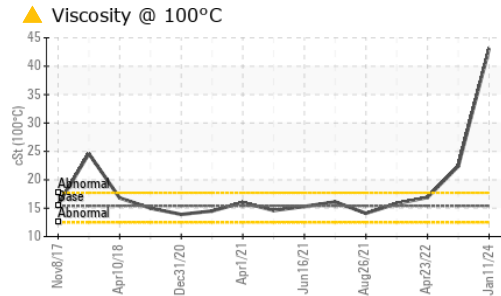
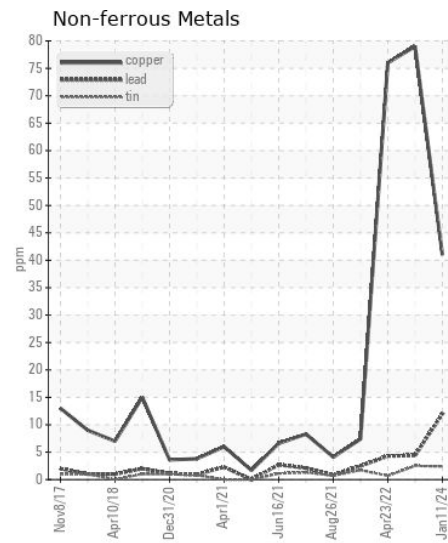
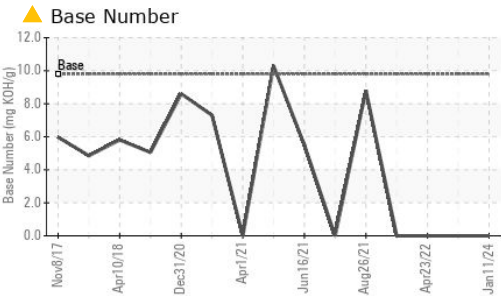
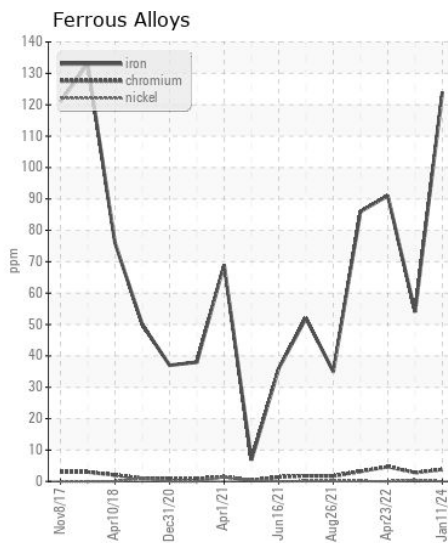
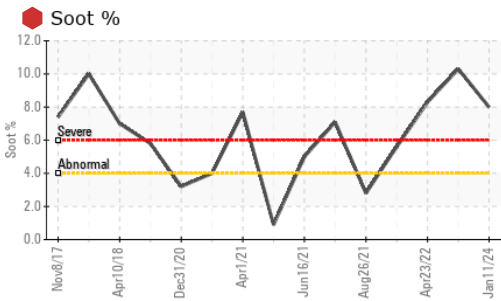
There is an abnormal amount of solids and carbon present in the oil.

Silicon	ppm	ASTM D5185m	>25	6	4	8
Potassium	ppm	ASTM D5185m	>20	0	0	0
Fuel	%	ASTM D3524	>3.0	<1.0	<1.0	<1.0
Water		WC Method	>0.2	NEG	NEG	NEG
Glycol		WC Method		NEG	NEG	NEG
Soot %	%	*ASTM D7844	>4	8	10.3	8.3
Nitration	Abs/cm	*ASTM D7624	>20	25.9	52.1	21.8
Sulfation	Abs/.1mm	*ASTM D7415	>30	63.7	94.4	38.7
Silt	scalar	*Visual	NONE	NONE	NONE	NONE
Debris	scalar	*Visual	NONE	NONE	NONE	NONE
Sand/Dirt	scalar	*Visual	NONE	NONE	NONE	NONE
Appearance	scalar	*Visual	NORML	NORML	NORML	NORML
Odor	scalar	*Visual	NORML	NORML	NORML	NORML
Emulsified Water	scalar	*Visual	>0.2	NEG	NEG	NEG

FLUID CONDITION

The oil viscosity is higher than normal. The BN level is low. The oil is no longer serviceable.

Sodium	ppm	ASTM D5185m		1	1	13
Boron	ppm	ASTM D5185m	0	<1	7	7
Barium	ppm	ASTM D5185m	0	0	0	0
Molybdenum	ppm	ASTM D5185m	60	32	54	54
Manganese	ppm	ASTM D5185m	0	<1	<1	<1
Magnesium	ppm	ASTM D5185m	1010	504	780	936
Calcium	ppm	ASTM D5185m	1070	603	1122	1103
Phosphorus	ppm	ASTM D5185m	1150	525	857	984
Zinc	ppm	ASTM D5185m	1270	664	1102	1118
Sulfur	ppm	ASTM D5185m	2060	1459	2868	2590
Oxidation	Abs/.1mm	*ASTM D7414	>25	69.0	129.5	30.9
Base Number (BN)	mg KOH/g	ASTM D2896	9.8	0.0	0.0	0.0
Visc @ 100°C	cSt	ASTM D445	15.4	43.1	22.4	16.9



Laboratory : WearCheck USA - 501 Madison Ave., Cary, NC 27513
Sample No. : GFL0088486 **Received** : 12 Jan 2024
Lab Number : 06058991 **Diagnosed** : 15 Jan 2024
Unique Number : 10830373 **Diagnostician** : Don Baldrige
Test Package : FLEET (Additional Tests: FuelDilution)

GFL Environmental - 112 - New Bern
 705 Airport Road
 New Bern, NC
 US 28560
 Contact: Marquis Williams
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 T:
 F:

Certificate L2367
 To discuss this sample report, contact Customer Service at 1-800-237-1369.
 * - Denotes test methods that are outside of the ISO 17025 scope of accreditation.
 Statements of conformity to specifications are based on the simple acceptance decision rule (JCGM 106:2012)